



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-----------------------------|------------------------|
| 10/034,273 | 12/28/2001 | David Chatenever | 02580-P0006B | 9457 |
| 24126 7590 11/28/2007 ST. ONGE STEWARD JOHNSTON & REENS, LLC 986 BEDFORD STREET STAMFORD, CT 06905-5619 | | | EXAMINER HENN, TIMOTHY J | |
| | | | ART UNIT 2622 | PAPER NUMBER |
| | | | MAIL DATE 11/28/2007 | DELIVERY MODE PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/034,273 | Applicant(s) CHATENEVER ET AL. | |
| | Examiner Timothy J. Henn | Art Unit 2622 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6 and 8-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6 and 8-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 13 September 2007 has been entered.

Response to Arguments

2. Applicant's arguments filed 13 September 2007 with respect to claims 1-4, 6, 8-21 have been fully considered but they are not persuasive. Applicant argues that Mochida does not disclose a detachable component including a processor wherein the processor configures the detachable component for processing image data. However, the claims as written do not specify how the processor configures the detachable component. Since the FPGA of Mochida determines what operations will be applied to incoming image data (i.e. the state of the gate connections in the FPGA determine the operations applied to the incoming data), the FPGA of Mochida can be considered as "configuring the detachable component" as claimed. Therefore Applicant's arguments with respect to claims 1-4, 6 and 8-21 are not considered persuasive.

3. Applicant's arguments with respect to claims 22-24 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-4, 6 and 8-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mochida et al. (US 2004/0141054) in view of Nakamura et al. (US 5,627,583).

[claim 1]

Regarding claim 1, Mochida discloses a video imaging system (Figure 1), comprising: a camera head for transmitting image data (Figure 1, Item 3; Paragraph 0136); a camera control unit receiving and processing the image data from the camera head (Figure 1, Item 4; Paragraph 0136), the camera control unit having a detachable configurable component (Figure 1, Items 41-43; Paragraphs 0227-0239; Mochida discloses an expansion substrate which uses an FPGA to process image data) including a processor (FPGA is a "processor"), wherein the detachable configurable component is completely removable from the camera control unit such that a different detachable configurable component may be installed in the camera control unit (e.g. Paragraph 0028; "disconnected freely"; Paragraphs 0174-0177). Mochida further discloses that the detachable configurable component can be configured according to received information (e.g. Paragraphs 0235-0237) but does not explicitly disclose that the program is stored on a storage device accessible by the camera control unit.

Nakamura discloses a similar video imaging system (Figure 2) including a camera head (Figure 2, Item 1), camera control unit (Figure 2, Item 3) and a

reconfigurable processing component (Figure 2, Item 16). Nakamura further discloses that information (i.e. a program) stored on a storage device accessible to the camera control unit can be used to properly configure the reconfigurable processing component according to the type of camera head connected (e.g. c. 4, ll. 5-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to configure the reconfigurable processing components of Mochida in accordance with data stored on a storage device accessible to the camera control unit as taught by Nakamura to perform optimum processing on image data produced by the connected camera head (c. 4, ll. 52-57).

The received program of Mochida in view of Nakamura overwrites the previously stored program on the FPGA (i.e. reprograms the FPGA to perform a different function). The examiner notes that as broadly as claimed, the FPGA processor "configures the detachable component for processing image data", i.e. the current state of the FPGA determines what operations will be performed on incoming image data. The claim as written does not explicitly state how the processor configures the detachable component, therefore, Mochida in view of Nakamura meets the claim limitations as written.

[claim 2]

Regarding claim 2, Nakamura further discloses that a camera head identifier can be sent to the camera control unit for retrieving the information from the storage device (Figure 6; c. 7, ll. 7-51).

[claim 3]

Regarding claim 3, Nakamura discloses a camera head which transmits the camera head identifier (Figure 6, Item 51, 52; c. 7, ll. 21-34; the examiner notes that since the camera head identifying means is located on the camera head, information must be "transmitted" as claimed to the camera control unit in some manner to inform the camera control unit of the identifier of the connected camera head).

[claim 4]

Regarding claim 4, Nakamura discloses a camera head which includes the storage device (Figure 2, Items 19, 20).

[claim 6]

Regarding claim 6, Nakamura discloses information for programming aa FPGA to optimally process image data (c. 4, ll. 5-57). The examiner notes that, as broadly as claimed, this information can be said to "specify" the at least one replaceable hardware component (e.g. the information provides a specification for the FPGA by which the image information is processed).

[claim 8]

Regarding claim 8, Mochida discloses a replaceable hardware component which further includes a memory device (Figure 28, Item 73).

[claim 9]

Regarding claim 9, Mochida discloses a replaceable hardware component which further includes a field programmable gate array (i.e. FPGA, Figure 28, Item 452; Paragraph 0229).

[claim 10]

Regarding claim 10, Mochida discloses a video bus and the replaceable hardware component attached to the video bus (Figure 1).

[claim 11]

Regarding claim 11, Mochida discloses a replaceable hardware component which includes a connector (Figure 2, Item 35; Paragraph 0145).

[claim 12]

Regarding claim 12, Mochida discloses a connector which receives image data (Paragraphs 0146-0147).

[claim 13]

Regarding claim 13, Mochida discloses a connector which outputs a signal processed from the image data (e.g. Paragraph 0143 discloses outputting to a monitor through D/A convert 36 and encoder 37 while Figure 23 and Paragraphs 0204-0226 disclose enlarging an image using the expansion substrates to display an enlarged image on the monitor, therefore the connect must include an output as claimed to output processed image data).

[claim 14]

Regarding claim 14, Mochida discloses a camera control unit which further comprises hardware capable of processing at least two different types of image data (e.g. Paragraph 0194; image data from CCD sensors of varying sizes can be considered different "types" of image data).

[claim 15]

Regarding claim 15, Mochida discloses information which routes the image data received by the camera control unit to the hardware capable of processing specified type of image data (i.e. by programming the FPGA using the information, the image data is "routed" to a proper section of the FPGA which is capable of providing proper processing).

[claim 16]

Regarding claim 16, Nakamura discloses configuring a reconfigurable hardware component so that the camera control unit is capable of issuing commands to the camera head as claimed (c. 4, ll. 5-57).

[claim 17]

Regarding claim 17, Mochida discloses a video imaging system (Figure 1), comprising: a camera head for transmitting image data (Figure 1, Item 3; Paragraph 0136); a camera control unit receiving and processing the image data from the camera head (Figure 1, Item 4; Paragraph 0136), the camera control unit having a detachable configurable component (Figure 1, Items 41-43; Paragraphs 0227-0239; Mochida discloses an expansion substrate which uses an FPGA to process image data) including a processor (FPGA is a "processor"), wherein the detachable configurable component is completely removable from the camera control unit such that a different detachable configurable component may be installed in the camera control unit (e.g. Paragraph 0028; "disconnected freely"; Paragraphs 0174-0177). Mochida further discloses that the detachable configurable component can be configured according to received information (e.g. Paragraphs 0235-0237), but does not explicitly disclose that

the camera control unit receives the information and configures the component as claimed.

Nakamura discloses a similar video imaging system (Figure 2) including a camera head (Figure 2, Item 1), camera control unit (Figure 2, Item 3) and a reconfigurable processing component (Figure 2, Item 16). Nakamura further discloses that information received by the camera control unit can be used to configure a reconfigurable processing component (e.g. c. 4, ll. 5-57). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to configure the reconfigurable processing components of Mochida in accordance with data stored on a storage device accessible to the camera control unit as taught by Nakamura to perform optimum processing on image data produced by the connected camera head (c. 4, ll. 52-57).

The received program of Mochida in view of Nakamura overwrites the previously stored program on the FPGA (i.e. reprograms the FPGA to perform a different function). The examiner notes that as broadly as claimed, the FPGA processor "configures the detachable component for processing image data", i.e. the current state of the FPGA determines what operations will be performed on incoming image data. The claim as written does not explicitly state how the processor configures the detachable component, therefore, Mochida in view of Nakamura meets the claim limitations as written.

[claim 18]

Regarding claim 18, Nakamura discloses a storage device accessible by the camera control unit (Figure 2, Items 19, 20).

[claim 19]

Regarding claim 19, Nakamura discloses information stored on the storage device (c. 4, ll. 5-57).

[claim 20]

Regarding claim 20, Mochida discloses a connector for outputting a signal processed from the image data (e.g. Figure 1, output of Item 37).

[claim 21]

Regarding claim 21, Mochida discloses a camera control unit which further comprises hardware capable of processing at least two different types of image data (e.g. Paragraph 0194; image data from CCD sensors of varying sizes can be considered different "types" of image data).

6. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steinberg et al. (US 6,750,902).

[claim 22]

Regarding claim 22, Steinberg discloses a video imaging system (Figure 1) comprising a camera head transmitting image data (Figure 1, Item 12); a camera control unit receiving and processing the image data from the camera head (Figure 1, Item 14 or 18; c. 4, l. 48 - c. 5, l. 4); said camera control unit having a detachable configurable component comprising a processor (Figure 1, Item 10; note that the device 10 is at least

connected via network link 38; Figure 3, Item 66); a program executing on the processor and overwriting an existing program on the processor, the processor configuring the detachable configurable component in the camera control unit to process the image data (c. 4, ll. 26-41; c. 5, ll. 18-30; c. 6, l. 44-48; note that the programming of the processor determines what operations will be applied to incoming image data); wherein the detachable configurable component is completely removable from the camera control unit such that a different detachable configurable component is installable in the camera control unit (Figure 1 and Figure 13; note that multiple different detachable components 220-224 may interface with the camera control unit 226; also note that the detachable component is not disclosed as being permanently connected to the camera control unit).

[claim 23]

Regarding claim 23, Steinberg discloses obtaining a programming instructions from a storage device (Figure 1, Item 36; c. 4, ll. 26-41). Since the storage device is accessible to the detachable component, and the detachable component communicates with the camera control unit, the storage device must be "accessible" to the camera control unit for at least the reason that data from the storage device could be communicated to the camera control unit via the detachable component.

[claim 24]

Regarding claim 24, Steinberg discloses a program for configuring the processor stored on the storage device (Figure 1, Item 36; c. 4, ll. 26-41).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J. Henn whose telephone number is (571) 272-7310. The examiner can normally be reached on M-F 11-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



TJH
11/24/2007